

REMARKS

The present application is amended in a manner to place it in condition for allowance.

**Status of the Claims**

Claim 1 is amended to clarify the meaning of "particles" in a manner consistent with the specification, for example, as described in the discussion of the prior art at lines 4-6 of paragraph [0005] and lines 4-8 of paragraph [0006] in light of the discussion of lines 3-7 of paragraph [0009] and lines 2-3 of paragraph [0071].

Claims 1-9 and 11 remain pending in the present application.

**Claim Rejections-35 USC §102**

Claims 1-4, 9 and 11 stand rejected under 35 U.S.C. §102 (b) as being anticipated by FRITZEMEIER et al. U.S. 6,562,761 ("FRITZEMEIER"). This rejection is respectfully traversed for the reasons below.

The claimed invention is directed to a material for chemical vapor deposition (CVD) comprising a precursor composed of a metal compound. Impurities generated as a result of decomposition of the precursor are present as particles, and the material contains 100 or less of these particles with a size of

0.5  $\mu\text{m}$  or more in 1 ml, in particle measurement by a light scattering submerged particle detector in a liquid phase.

The positions maintained by the Official Action is that (1) CVD is not given patentable weight in the claim, as it appears in the preamble and (2) the impurity is not recited in the claims.

However, as explained previously, materials for CVD are usually precursors in the form of a liquid or precursor solvents, in a liquid phase. Particles are present, which result from impurities including decomposed substances of the precursors. Therefore, the resultant thin films from such materials are contaminated by the particles.

Applicants, however, have discovered that a material for CVD which has 100 or less particles having a size of 0.5  $\mu\text{m}$  or more in 1 ml of liquid, in particle measurement by a light-scattering, submerged-particle detector in a liquid phase, the resulting contamination by these particles in a thin film is effectively suppressed.

FRITZEMEIER discloses a dispersion composition obtained by dispersing precursor particles. The Official Action relied on the teaching of "less than 50 nm" in FRITZEMEIER, as meeting the recited size of particles in claim 1.

However, this size disclosed in FRITZEMEIER is that of the precursor, not the size of the impurities of the precursor.

That is, the presently claimed precursor comprises "particles" which are the impurities generated from the decomposition of the precursor. These impurity particles are discussed, for example, at the present specification lines 4-6 of paragraph [0005], lines 4-8 of paragraph [0006], lines 3-7 of paragraph [0009], and lines 2-3 of paragraph [0071].

Thus, the claimed invention cannot be anticipated by FRITZEMEIER.

FRITZEMEIER would also fail to render obvious the claimed invention, as the material disclosed is not a material for CVD, and thus, non-analogous art. Indeed, at column 1, lines 59-61, FRITZEMEIER discloses "CVD is not considered a competitive method at this time, due to the very high cost of precursor materials." Thus, there would have been no motivation for FRITZEMEIER to even approach the size of particles which are impurities.

Therefore, withdrawal of the rejection is respectfully requested.

**Claim Rejections-35 USC §103**

Claims 1-5, 7-9 and 11 stand rejected under 35 U.S.C. §103 (a) as being unpatentable over PAZ DE ARAUJO et al. U.S. 6,511,718 ("PAZ DE ARAUJO"), and claim 6 stands rejected under 35 U.S.C. §103 (a) as being unpatentable over PAZ DE ARAUJO in view

of MATSUNO et al. U.S. 6,512,297 ("MATSUNO"). These rejections are respectfully traversed for the reasons below.

As discussed with respect to the anticipation rejection above, impurities formed during the decomposition of the precursor are present as particles, and the material contains 100 or less of these particles with a size of 0.5  $\mu\text{m}$  or more in 1 ml.

The position maintained by the Official Action is based on PAZ DE ARAUJO disclosing a particle size of preferably 0.5  $\mu\text{m}$  or lower of a mist created from precursors. However, this is not the particle size of impurities.

MATSUNO cannot remedy this shortcoming of PAZ DE ARAUJO for reference purposes, as MATSUNO is also silent about an impurity particle size.

Therefore, the combination fails to render obvious the claimed invention, and withdrawal of the obviousness rejections is respectfully requested.

### **Conclusion**

In view of the amendment to the claims and the foregoing remarks, this application is in condition for allowance at the time of the next Official Action. Allowance and passage to issue on that basis is respectfully requested.

Should there be any matters that need to be resolved in the present application, the Examiner is respectfully requested to contact the undersigned at the telephone number listed below.

The Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to our credit card which is being paid online simultaneously herewith for any additional fees required under 37 C.F.R. § 1.16 or under 37 C.F.R. § 1.17.

Respectfully submitted,

YOUNG & THOMPSON

/Robert A. Madsen/  
Robert A. Madsen, Reg. No. 58,543  
209 Madison Street, Suite 500  
Alexandria, VA 22314  
Telephone (703) 521-2297  
Telefax (703) 685-0573  
(703) 979-4709

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